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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/729,478

12/05/2003

Sivaram Balasubramanian

99AB083-A

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63122 7590 02/26/2009  
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EXAMINER

ZHE, MENG YAO

ART UNIT

PAPER NUMBER

2195

MAIL DATE

DELIVERY MODE

02/26/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<i>Office Action Summary</i>	Application No.	Applicant(s)	
	10/729,478	BALASUBRAMANIAN, SIVARAM	
	Examiner	Art Unit	
	MENGYAO ZHE	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2008.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/15/08, 9/29/04</u>  | 6) <input type="checkbox"/> Other: _____                          |

DETAILED ACTION

1. Claims 1-30 are presented for examination.

*Election/Restrictions*

2. Claims 1-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Election was made without traverse in the reply filed on 1/18/2008. The applicant is reminded to cancel claims 1-23 on the next reply to this office action.

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 24-30 rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al., International Publication No. WO 98/42101 (hereafter Smith).
5. As per claim 24, Smith teaches a method of coordinating a new control application program with other control application programs being performed on a distributed real-time operating system (Pg 2, lines 1-6), wherein the distributed real-time

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operating system is for use with a control system having spatially separated control hardware resources, the method comprising:

(a) receiving the new control application program (Fig 2, unit 11; Pg 14, lines 22-27);

(b) identifying control hardware resources from a resource list matching control hardware resources required by the new control application program (Table 1);

(c) allocating portions of a constraint associated with the new control application program to each identified control hardware resource (Pg 18, lines 19-25);

(d) determining whether the allocated portions of the constraint of the new control application program can be met while requirements of the other control application programs also are met (Pg 17, lines 20-27).

6. As per claim 25, Smith teaches wherein the constraint is a completion timing constraint (Pg 15, lines 19-21).

7. As per claim 26, Smith teaches collecting statistics regarding a usage of the control hardware resources as the new control application program and other control application programs are being performed; and optimizing the usage of the control hardware resources based at least in part upon the collected statistics (Pg 39, line 21-Pg 41, line 5).

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8. As per claim 27, Smith teaches a method of operating an application program on a distributed control system having a plurality of hardware resources, the method comprising:

receiving high-level requirements concerning the application program (Pg 14, lines 22-27);

determining low-level requirements based upon the high-level requirements (Pg 15, lines 15-24);

allocating at least one of the high-level requirements and the low-level requirements among at least some of the plurality of hardware resources (Pg 18, lines 19-25);

operating the application program in accordance with the allocated requirements (Pg 18, lines 19-25).

9. As per claim 28, Smith teaches wherein the high-level requirements include at least one of a hardware requirement, a completion-timing constraint, a message size, an inter-arrival period, a need for remote system services, and a type of priority (Pg 15, lines 19-21; Pg 41, line 20) and wherein the low-level requirements include at least one of an amount of memory, a network bandwidth, and a processor bandwidth (Tables 1, 2).

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10. As per claim 29, Smith teaches wherein the allocating of the low-level requirements includes allocating the low-level requirements to both a primary hardware resource and an implicit hardware resource (Pg 5, lines 2-7; Table 1: network connection bandwidth corresponds to primary hardware resource and microphone corresponds to implicit hardware resource).

11. As per claim 30, Smith teaches determining whether the allocated requirements are consistent with other allocated requirements associated with other application programs, prior to operating the application program (Pg 17, lines 20-27).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/

Supervisory Patent Examiner, Art Unit 2195